

AMENDMENTS TO THE CLAIMS

1. **(Original)** A vaccine composition for vaccinating dogs comprising any one or more of:

(a) an agent capable of raising an immune response against *Streptococcus equi* sub species *zooepidemicus* (*S. zooepidemicus*) in a dog;

(b) an agent capable of raising an immune response against *Mycoplasma cynos* (*M. cynos*) in a dog; and

(c) an agent capable of raising an immune response against a *Chlamydophila* in a dog.

2. **(Currently amended)** A The vaccine composition according to Claim 1, wherein the agent capable of raising an immune response against *S. zooepidemicus* in a dog comprises inactivated or attenuated *S. zooepidemicus*, or an immunogenic fragment of *S. zooepidemicus* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

3. **(Currently amended)** A The vaccine composition according to Claim 1, ~~or 2~~ wherein the agent capable of raising an immune response against *M. cynos* in a dog comprises inactivated or attenuated *M. cynos*, or an immunogenic fragment of *M. cynos* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

4. **(Currently amended)** A The vaccine composition according to ~~any of Claims~~ Claim 1, ~~to 3~~ wherein the agent capable of raising an immune response in a dog against a *Chlamydophila* comprises inactivated or attenuated *Chlamydophila abortus*, or an immunogenic fragment of *Chlamydophila abortus* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

5. **(Currently amended)** A The vaccine composition according to ~~any of Claims~~ Claim 1, ~~to 3~~ wherein the agent capable of raising an immune response in a dog against a *Chlamydophila* comprises inactivated or attenuated *Chlamydophila psittaci*, or an immunogenic fragment of *Chlamydophila psittaci* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

6. **(Currently amended)** A The vaccine composition according to ~~any of Claims~~ Claim 1, ~~to 3~~ wherein the agent capable of raising an immune response in a dog against a *Chlamydophila* comprises inactivated or attenuated *Chlamydophila fells*, or an immunogenic

fragment of *Chlamydophila felis* or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

7. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 1, to 3~~ wherein the agent capable of raising an immune response in a dog against a *Chlamydophila* comprises inactivated or attenuated *Chlamydia muridarum*, *Chlamydia pecorum*, *Chlamydia pneumoniae*, *Chlamydia suis* or *Chlamydia trachomatis*, or an immunogenic fragment thereof, or a derivative thereof, or a nucleic acid encoding said fraction or said derivative.

8. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 1 to 7~~ and a pharmaceutically acceptable carrier, diluent or adjuvant.

9. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 1 to 8~~ further comprising any one or more of:

(d) an agent capable of raising an immune response in a dog against canine respiratory coronavirus (CRCV);

(e) an agent capable of raising an immune response in a dog against canine parainfluenzavirus (CPIV);

(f) an agent capable of raising an immune response in a dog against canine adenovirus type 2 (CAV-2);

(g) an agent capable of raising an immune response in a dog against canine herpesvirus (CHV), and

(h) an agent capable of raising an immune response in a dog against *Bordetella bronchiseptica* (*B. bronchiseptica*).

10. **(Currently amended)** A The vaccine composition according to Claim 9, wherein the agent capable of raising an immune response in a dog against CRCV comprises inactivated or attenuated CRCV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

11. **(Currently amended)** A The vaccine composition according to Claim 10, wherein the immunogenic fragment of CRCV comprises the Spike protein or the hemagglutinin-esterase (HE) protein, or an immunogenic portion of the Spike or HE protein.

12. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 9, to 11~~ wherein the agent capable of raising an immune response in a dog against CPIV comprises inactivated or attenuated CPIV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

13. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 9, to 12~~ wherein the agent capable of raising an immune response in a dog against CAV-2 comprises inactivated or attenuated CAV-2, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

14. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 9, to 13~~ wherein the agent capable of raising an immune response in a dog against CHV comprises inactivated or attenuated CHV, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

15. **(Currently amended)** A The vaccine composition according to ~~any of Claims Claim 9, to 14~~ wherein the agent capable of raising an immune response in a dog against *B. bronchiseptica* comprises inactivated or attenuated *B. bronchiseptica*, or an immunogenic fragment thereof, or a nucleic acid encoding said immunogenic fraction.

16. **(Currently amended)** A method of vaccinating a dog against canine infectious respiratory disease (CIRD) comprising administering to the dog a vaccine composition according to ~~any of Claims Claim 1 to 15~~.

17. **(Currently amended)** A method of treating CIRD in a dog comprising administering to the dog a vaccine composition according to Claim 1 ~~any of Claims 1-15~~.

18. **(Original)** A method of stimulating an immune response against any one or more of *S. zooepidemicus*, *M. cynos* and a *Chlamydophila* in a dog, the method comprising administering to the dog a respective any one or more of:

- (a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog;
- (b) an agent capable of raising an immune response against *M. cynos* in a dog; and
- (c) an agent capable of raising an immune response against a *Chlamydophila* in a dog.

19. **(Currently amended)** A ~~The~~ method according to Claim 18 further comprising administering to the dog any one or more of:

- (d) an agent capable of raising an immune response in a dog against CRCV;
- (e) an agent capable of raising an immune response in a dog against CPIV;
- (f) an agent capable of raising an immune response in a dog against CAV-2;
- (g) an agent capable of raising an immune response in a dog against CHV; and
- (h) an agent capable of raising an immune response in a dog against *B. bronchiseptica*.

20.-28. **(Cancelled)**

29. **(Original)** A method of making an antibody that specifically binds to any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydophila* comprising raising an immune response to a respective any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydophila*, or an immunogenic fragment thereof in an animal, and preparing an antibody from the animal or from an immortal cell derived therefrom.

30. **(Original)** A method of obtaining an antibody that specifically binds to any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydophila* comprising selecting an antibody from an antibody-display library using a respective any one or more of *S. zooepidemicus*, *M. cynos* or a *Chlamydophila*, or an immunogenic fragment thereof.

31. **(Original)** An antibody that specifically binds to *S. zooepidemicus*, *M. cynos* or a *Chlamydophila*.

32. **(Currently amended)** A method of passively immunising a dog against CIRD comprising administering to the dog one or more antibodies of Claim 31 ~~that specifically bind to a respective one or more of *S. zooepidemicus*, *M. cynos*, and a *Chlamydophila*.~~

33. **(Currently amended)** A method of treating CIRD in a dog comprising administering to the dog one or more antibodies of Claim 31 ~~that specifically bind to a respective one or more of *S. zooepidemicus*, *M. cynos*, and a *Chlamydophila*.~~

34. **(Currently amended)** A method according to Claim 32 ~~or 33~~ further comprising administering to the dog antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.

35.-37. **(Cancelled)**

38. **(Currently amended)** A composition comprising any two or more of an antibody of Claim 31 ~~that specifically binds to *S. zooepidemicus*, an antibody that specifically binds to *M. cynos*, and an antibody that specifically binds to a *Chlamydomophila*.~~

39. **(Original)** A composition according to Claim 38 further comprising antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.

40. **(Currently amended)** A vaccine composition comprising:

- (b) an agent capable of raising an immune response against *M. cynos* in a dog; and
- (d) an agent capable of raising an immune response against CRCV in a dog.

41. **(Currently amended)** The vaccine composition according to Claim 40 further comprising any one or more of:

- (e) an agent capable of raising an immune response against a *Chlamydomophila* in a dog;
- (e) an agent capable of raising an immune response in a dog against CPIV;
- (f) an agent capable of raising an immune response in a dog against CAV-2;
- (g) an agent capable of raising an immune response against CHV in a dog; and
- (h) an agent capable of raising an immune response in a dog against *B. bronchiseptica*.

42. **(Currently amended)** The vaccine composition according to Claim 40 ~~or 41~~ further comprising:

- (a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog.

43. **(Original)** A method of determining whether a dog has been exposed to a *Chlamydomophila* species associated with CIRD, the method comprising:

- (a) obtaining a suitable sample from the dog; and
- (b) identifying a *Chlamydomophila* species associated with CIRD, or an antibody there to, in the sample.

44. **(Currently amended)** A The method according to Claim 43 wherein the *Chlamydomophila* species associated with CIRD has 23S rRNA comprising the sequence (when shown as RNA) of any of SEQ ID NO: 1 to 8.

45. **(Original)** A method of determining whether a dog has or is susceptible to CIRDC, the method comprising:

- (a) obtaining a suitable sample from the dog; and
- (b) identifying any one or more of *S. zooepidemicus* or *M. cynos* or *Chlamydomphila*, or an antibody to any of these, in the sample.

46. **(Currently amended)** A The method according to Claim 45 wherein the *S. zooepidemicus* or *M. cynos* or *Chlamydomphila* is identified using an antibody.

47. **(Currently amended)** A The method according to Claim 45 wherein the *S. zooepidemicus* or *M. cynos* or *Chlamydomphila* is identified using a nucleic acid.

48. **(Currently amended)** A The method according to Claim 45 wherein the anti-*S. zooepidemicus* antibody is detected using a *S. zooepidemicus* or an antigenic portion thereof.

49. **(Currently amended)** A The method according to Claim 45 wherein the anti-*M. cynos* antibody is detected using a *M. cynos* or an antigenic portion thereof.

50. **(Currently amended)** A The method according to Claim 45 wherein the anti-*Chlamydomphila* antibody is detected using a *Chlamydomphila* or an antigenic portion thereof.

51. **(Currently amended)** A The method according to any one of Claims 43 or 45, to 49 wherein the sample is an antibody-containing sample such as serum, saliva, tracheal wash or bronchiolar lavage.

52. **(Original)** An immunosorbent assay for detecting antibodies associated with CIRDC, the assay comprising:

a solid phase coated with any one or more of

- (a) an agent capable of raising an immune response against *S. zooepidemicus* in a dog;
- (b) an agent capable of raising an immune response against *M. cynos* in a dog; and
- (c) an agent capable of raising an immune response against a *Chlamydomphila* in a dog; and

a detectable label conjugate which will bind to the antibodies bound to the solid phase.

Int. Appl. No. : **PCT/GB2004/002865**
Int. Filing Date : **July 1, 2004**

53. **(Original)** An immunosorbent assay according to Claim 52 wherein the solid phase contains any two or all three of (a), (b) and (c).

54. **(Original)** A solid phase substrate coated with any one or two or all three of (a), (b) and (c) as defined in Claim 52.

55. **(New)** A method according to Claim 33 further comprising administering to the dog antibodies that specifically bind to any one or more of CRCV, CPIV, CAV-2, CHV, and *B. bronchiseptica*.